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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,130	03/25/2004	Satoshi Seo	0553-0402	7717

7590 07/31/2007  
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EXAMINER
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KOSLOW, CAROL M

ART UNIT	PAPER NUMBER
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1755

MAIL DATE	DELIVERY MODE
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07/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/809,130

Applicant(s)

SEO ET AL.

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17, 20-56 and 58-60 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 20-56 and 58-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-17 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

This action is in response to applicants' amendment of 23 May 2007. The new abstract is acceptable and thus the objection to the previous abstract is withdrawn. The substitute specification filed 23 May 2007 has been entered. Thus the objections to the disclosure is withdrawn and the 35 USC 112 rejection with respect to the meaning of "metal". The amendments to the claims have overcome the objection over claims 18 and 19, the 35 USC 112 rejections and the art rejections over claims 6, 16, 18 and 19. Applicant's arguments with respect to the art rejection have been fully considered but they are not persuasive.

Claims 2-4, 20-56 and 58-60 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected invention and species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4 January 2007 and 27 October 2006.

Claims 1 and 5-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is indefinite since silicon is not a typical or translation metal, as defined by applicant, and thus is excluded from claim 1. Applicants defined silicon as a metalloid, not a metal.

The claims are indefinite as to how and where the ligand is bonded to the metal in the argued three dimensional network of metal and oxygen bonds. It is unclear if the ligand is present in the argued network or not.

Claims 1 and 5-15 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. Evidence that claims fail(s)

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to correspond in scope with that which applicant(s) regard as the invention can be found in the reply. In that paper, applicant has defined "metal oxide" as a metal oxide gel or three dimensional network which contains repeating metal oxide bonds, which would be a particle (which is something more than a simple M-O bond in a compound), and this statement indicates that the invention is different from what is defined in the claim(s) because it appear what is being claimed is metal oxide particles having ligands bonded to the metal atoms present on the outside of the particle. Reference number 103 of the drawing appears to support this interpretation. The claims as written do not reflect this. The wording of claim 1 implies the material has both oxygen and ligand bonds in the matrix.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 5, 13, 14, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 5,466,392.

This reference teaches a semiconductive organic-inorganic material having aluminum oxide chelated to 8-hydroxyquinoline. Column 19, line 66 through column 20, line 45 teach the material can also comprise aromatic compounds, such as organic fluorescent whitening agents, organic light emitters and metal chelated aromatic oxanoid semiconductors. The reference teaches the claimed material.

Applicants argue that the taught compound structure is not a metal oxide matrix and proceeds to give a definition of this term. There is nothing applicants' specification to limit the phrase "metal oxide matrix" to the argued meaning. The wording of claim 1 requires the metal oxide matrix to have both metal oxygen bonds and metal ligand bonds to be present in the

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matrix. This is what is taught in the reference. Thus the arguments are not convincing and the rejection is maintained.

Applicant's amendment and arguments necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk  
July 27, 2007



C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700